

**Notice of Allowability**

Application No.

10/648,018

Examiner

Adam R. Giesy

Applicant(s)

FUJIUNE ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/29/2006.
2. ☒ The allowed claim(s) is/are 1-19.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

***Allowable Subject Matter***

1. The following is an examiner's statement of reasons for allowance:

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claims 1-19 are allowed over the prior art of record.

Independent claim 1 is allowed since the claim recites an optical disc drive for reading and/or writing information from/on multiple types of optical discs comprising: a light source, a lens, a photodetector, a spherical aberration generator for generating a minimum spherical aberration when the beam spot is located at a reference depth that is defined by the depths of the information storage layers of the multiple types of optical discs, a focus driver, a light quantity detector for generating a light quantity signal on receiving and obtaining the sum of the reflected light signals from the photodetector every time the beam spot is moved, and a type recognizer for recognizing a type of the loaded optical disc by estimating a depth of the information storage layer of the loaded optical disc from a surface thereof according to a degree of symmetry of a waveform of the light quantity signal.

Claims 2-8 are allowed as being dependent upon the aforementioned independent claim 1.

Independent claim 9 is allowed since the claim recites an optical disc drive for reading and/or writing information from/on multiple types of optical discs comprising: a

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light source, a lens, a photodetector, a spherical aberration generator for generating a minimum spherical aberration when the beam spot is located at a reference depth that is defined by the depths of the information storage layers of the optical discs, a focus driver, a light quantity detector for generating a light quantity signal on receiving and obtaining the sum of the reflected light signals from the photodetector every time the beam spot is moved, and a layer number finder for finding a layer number of the information storage layer on which the beam spot should be located by the waveform of the light quantity signal, the information storage layers being numbered in an ascending order from the surface of the optical disc.

Claims 10-13 are allowed as being dependent upon the aforementioned independent claim 9.

Independent claim 14 is allowed since the claim recites an optical disc drive for reading and/or writing information from/on an optical disc comprising: a light source, a lens, a photodetector, a spherical aberration generator for generating a spherical aberration in response to a control signal, a light quantity detector for generating a light quantity signal on receiving and obtaining the sum of the reflected light signals from the photodetector every time the beam spot is moved, a symmetry detector for outputting a symmetry indicating signal, representing the degree of symmetry of the waveform of the light quantity signal by determining whether the waveform of the light quantity detector is symmetric or asymmetric, and an aberration regulator for generating and outputting the control signal to the spherical aberration generator in accordance with the symmetry indicating signal, the aberration regulator identifying the symmetry indicating signal,

representing that the waveform of the light quantity signal is symmetric, and generating the control signal associated with the identified symmetry indicating signal.

Claims 15 and 16 are allowed as being dependent upon the aforementioned independent claim 14.

Method claim 17 is drawn to the method of using the corresponding apparatus claimed in claim 1. Therefore method claim 17 corresponds to apparatus claim 1 and is allowed for the same reasons as discussed above.

Method claim 18 is drawn to the method of using the corresponding apparatus claimed in claim 9. Therefore method claim 18 corresponds to apparatus claim 9 and is allowed for the same reasons as discussed above.

Method claim 19 is drawn to the method of using the corresponding apparatus claimed in claim 14. Therefore method claim 19 corresponds to apparatus claim 14 and is allowed for the same reasons as discussed above.

The closest prior art by Hwang (US Pat. No. 6,061,318) discloses an optical disc type discriminating device comprising: a laser, a lens, a photodetector, and a focus error signal detector. Hwang does not disclose a light quantity signal, an asymmetry detector, or a layer number finder.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam R. Giesy whose telephone number is (571) 272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ARG 12/4/2006



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